Cliffe Airport
An Interim Appraisal

CLIFFE
CONSULTATION

Planning and Regeneration Services
Gravesham Borough Council
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Gravesham Borough Council

Section 1

Introduction

1.1 This report is an interim appraisal of the information contained in the Government's consultation documents and supporting information on the future strategy for airport provision in the south east. It is not a full analysis of that information, and therefore some of the arguments may require further refinement as a result of further work. It sets out the background to the consultation and focuses particularly on the proposals for an airport at Cliffe, in Medway, some 10 km east of Gravesend. Each section sets out the known information, the issues and questions it raises, and a summary of its significance for the residents of Gravesham.

1.2 The assessment is based on information contained in the main consultation document (*The Future Development of Air Transport in the United Kingdom: South East* Department for Transport July 2002) and other supporting material that has been made available (see appendix I). There are parallel documents for the rest of the United Kingdom as part of a wider consultation on the future provision for air traffic nationally. The key issues for the Government are:-

- should new airport capacity be provided in the south east over the next 30 years and, if so how much?
- where should that capacity be located?
- what measures are needed to control and mitigate the environmental impacts?

1.3 The Government in its White Paper, *A New Deal for Transport: Better for Everyone*, published in 1998 announced that it would prepare an airports policy for the next 30 years. The SERAS study (South East and East of England Regional Air Services Study) specifically addressed these issues in the south east. Note that unless otherwise indicated in this report 'south east' means the wider south east, including London and East Anglia, not just the Government Office for the South East (GOSE) area. The scale of the issues raised are so large and far reaching that Government felt it was the only body in a position to take an overview.

1.4 The deadline for responses is 30th November 2002. The Department for Transport has provided a list of questions it would like to see answered, which are included as appendix II. The expectation is that a White Paper on airports policy will be produced by the Government in spring/summer 2003. Section 7 of this document contains some suggestions on how the timetable might go forward if Cliffe were to be selected at that stage. The experience of dealing with the Channel Tunnel Rail Link (CTRL), while not likely to be the same, is very instructive on possible procedures as well as some of the issues raised by major infrastructure development.

1.5 The consultation process is being undertaken by the Department for Transport, as it is their consultant's work that we are being asked to comment upon. The

Borough Council has carried out its own process to listen to the views of Gravesham residents, which are reported in section 8. Any views made in the final analysis need to reflect not only these, but take account of the wider interests of the Gravesham local economy, Kent Thameside, North Kent, Thames Gateway and the national economy.

1.6 The key question for the Borough Council is whether an airport at Cliffe, on the scale suggested, would give sufficient economic and other benefits to outweigh the manifest environmental, social and other impacts that it would cause.

1.7 The structure of the assessment is to examine the background air traffic projections and other factors to explain the context in which an airport at Cliffe is being suggested. The other options in the South East are also briefly outlined to give a context within which to place the following discussion. The proposals for Cliffe and its access are then outlined followed by an appraisal of the impacts. At this stage the analysis is necessarily of a preliminary nature. A large amount of work has been commissioned by Medway and Kent County Councils, with a joint approach although separate consultants. The results of this will start becoming available in mid October and may lead to adjustments to some of the matters discussed below. At this stage the Borough Council has not sought to duplicate the technical work that is under way. Both Medway Council and Kent County Council have made it clear that the Gravesham will be able to access the results. In some areas therefore there are questions that need to be answered rather than detailed comments. That having been said in some areas the impacts and implications are fairly clear cut.

Section 2

Air Traffic Forecasts

Introduction

2.1 This section explores the air traffic forecasts, which lead to the basic questions about future provision of capacity to meet air traffic growth. It also explains the current position in relation to airport capacity in the south east and explains some of the key terms and concepts.

Aviation industry

2.2 In simple terms air traffic can be split into two basic components. Passengers (normally expressed as mppa – millions of persons per year) and aircraft movements. There is no simple relationship between the two as the aircraft movements needed for a given number of passengers are a function of average aircraft size using a given airport and the load factor (number of seats occupied). One fifth of UK exports by value (not weight) travel by air, so the role of freight cannot be ignored, be it carried on normal passenger flights or on dedicated services.

2.3 Aviation in the south east employs some 160,000 people, and additional airport capacity on this scale could add 55 – 80,000 new jobs. It is highly important to businesses that trade on an international basis should have good links to their markets in the rest of the world. Tourism is a major economic generator, and two thirds of overseas visitors arrive by air. 53% of air passengers start or finish their journeys in the south east (the area having 35% of the national population).

2.4 On the other side of the equation air travel is a major contributor to greenhouse gases and therefore impacts upon climate change. At a more local level aircraft cause noise and air pollution, and airports take a considerable amount of land. The transport infrastructure to support them eats up further land and causes more noise and air pollution. The people employed directly or indirectly need homes, services, etc which can be very beneficial or highly detrimental depending on circumstances. The presence of a major airport can also be highly significant in attracting businesses in general to locate in an area. All of these factors can impact on homes, habitats, ecology, landscape, recreation and so on.

2.5 Any national airports strategy therefore has to tread a narrow line between the economic benefits that flow from the air travel industry, the others it helps support (such as tourism), the wider economy, and the environmental impacts. This is in the context of an internationally competitive industry. The impacts are particularly concentrated at and around airports, though there can be few parts of the south east that are not aware of aircraft, albeit at high altitude.

2.6 Traditionally the scheduled airline market has been highly regulated, with flights and capacity strictly controlled, by means of bilateral agreements between countries (in effect their national airlines). The inclusive tour market challenged this by providing cheap flights (as part of a package) to holiday destinations,

Southern Europe being the obvious example. The profit on the scheduled airline primarily comes from the first/business class passenger, who pays a high price for ticket flexibility, better accommodation and service. The ordinary passenger can trade ticket flexibility versus travelling at fixed times etc to get a lower price. The airlines have advanced systems for calculating what price they should charge for a given seat.

2.7 This business model is now under challenge from the budget airlines (Easyjet, Ryanair etc), who essentially strip out the extras (such as free meals) and price each flight according to demand, with no flexibility as to date and time of travel (though reservations can be changed at a price). Overheads are reduced (for example by operating a fleet of identical aircraft), and aircraft turn round times are pared right down to a minimum. The result for the flexible traveller is some very reasonably priced seats, though at peak times and main routes the fares will be very similar to those on traditional airlines. Some of the airlines try to operate to/from minor airports located someway from the centres they notionally serve. Costs are therefore lower, but the passenger may have longer overall travel times and less convenient access.

2.8 The low cost operators have expanded significantly in the recent past, whilst the major airlines have had significant financial problems (e.g. Swissair, Sabena have gone bankrupt). Nations are however unlikely to allow their national airline(s), be they public or private sector, to disappear for reasons of national prestige. Some of the major carriers have responded by moving more towards the budget approach.

2.9 The traditional airlines have grouped themselves into alliances (One World and Star being the main ones), so as to be able to offer some of the network benefits of being a much larger airline. Key to this is the concept of an airport hub. The idea is that flights from a wide range of destinations arrive and depart within a relatively short space of time of each other, thereby offering the maximum range of destinations. For the UK the obvious way this works is to fly in passengers from a range of North American destinations and then offer a wide range of destinations across Europe. Heathrow is an example of a hub (though it does not function in the 'pure' form), as are Frankfurt and Paris (Charles de Gaulle). 15 million passengers (out of 64.3 million) at Heathrow change planes (that is 23% of passengers arrive and leave by air).

2.10 Competition is keen on routes with large numbers of passengers and airlines. Within Europe routes are broadly deregulated, but to other places (e.g. United States) regulation remains. A key barrier to competition however is the possession of slots – that is take off and landing times at a particular airport. At peak times unless you have the slots it is not possible to run the flights, and therefore compete. This is particularly true of airports, such as Heathrow, that are running close to capacity.

Air traffic

2.11 Air traffic has grown significantly over the past with long term national growth rates in the order of 5 -6%, though with considerable ups and downs. Over the last decade the main south east airports have grown by 6.9% a year (figure 2.1 shows the historical pattern). The south east air traffic is projected to grow if

unconstrained (that is demand for runway capacity is met) from 117m passengers in 2000 to 301m in 2030, a annual average of 5.2% (see figure 2.2). National passenger numbers are expected to grow at 5.8%, with the proportion in the south east dropping from 64.6% to 60.1% in 2030 as the rest of the UK catches up. Of that 117 mppa, 40 million come from the Greater London area.

2.12 These growth rates are driven by assumptions about Gross Domestic Priduct (GDP), exchange rates and real airfares, and take account of the different sectors of the market (international, domestic, low cost, business, leisure etc). Historically actual air traffic growth has tended to come in at a higher rate than the forecasts overall. This is despite events like the Gulf War in the early 1990's or September 11. Real changes in pushing up costs (e.g. oil prices, taxation of fuel) naturally reduce the level of demand, whereas reduced costs (e.g. from low cost model) push up air travel demand. Events like recessions, wars etc, which depress demand significantly tend not to have long term effects, though may be highly significant in terms of when new capacity is needed.

2.13 There is no reason to assume that air travel is any different from road or rail, so that up to a point if capacity is provided at an attractive price it will be used. The time savings, especially because Britain is an island, mean that it is the preferred means of travel once the total (not air) travel time gets over three`` hours. Thus Eurostar has been able to take a significant share of the market to Paris, but even with CTRL is going to have problems getting market domination, as opposed to a share, for destinations further away.

2.14 Air travel also needs to be placed in a wider sustainable development context. It brings benefits (e.g. tourism, economic development) to many parts of the world, but also imposes costs (e.g. that tourism after a certain point may destroy the attraction in the first place). Improved access is always a two edged sword as it allows people to leave as well as arrive. The problems of seaside towns in the UK are a product in part of the ability to go somewhere else with a more reliable climate at the same or even a lower price. The impact of CO_2 emissions on global warming, if these sort of growth rates are to be maintained is likely to be significant. The overall debate is therefore not just about where to put some new lengths of concrete but more fundamental issues over the future structure of the economy.

SERAS

2.15 The SERAS study looked at airports across the wider south east, including places such as Manston, Southampton and Norwich as well as Heathrow, Gatwick and Stansted (see figure 2.3). The first phase was a site search, which examined well over 400 sites, excluding the current main airports. These were sorted out through a series of sifts, for example removing sites that did not have sufficient physical space. This resulted in a list 14 new sites and 16 existing sites. The sites were analysed in more detail to produce the following 9 in rank order: Harlow, Thurrock, Cliffe, UK1(near Bristol), Hullavington, Alconbury, Retterdon, Shadoxhurst and Hayes Knoll. For reasons that are not entirely clear, from this emerged the suggestion of Cliffe as a new hub airport and Alconbury (just north west of Huntingdon) as a freight airport. It was not however a simple search for additional runway capacity, which could for example be met by aggregating the capacity at various airports. Given the scale of potential demand

it was also about a site for a possible hub airport, which implies large scale concentration of demand in one place.

2.16 The main SERAS study was carried out in a series of three main stages, with Stage 1 reporting to Ministers in July 2001, having started in early 2000. The main work was carried out in more detail in the Phase 2 report.

2.17 The modelling employed by the study allows various options for runway provision to be examined, including the impacts of airports on each other. Passengers for each of the main existing airports tend to be drawn mostly from their hinterland, though Heathrow has the greatest reach of all. In other words passengers tend to use their nearest airport where possible over other remoter alternatives. The major market is however central London, with accounted for 18m in 2000.

2.18 The consultation omits Gatwick, on the basis that there is a legal agreement between BAA Ltd and West Sussex CC (entered into in 1979) that rules out a second runway before 2019. The study reports do however include information on Gatwick. Kent County Council and Medway Council are mounting a legal challenge for a judicial review on the exclusion of Gatwick. This is primarily on the basis that such a legal agreement, which could be over-ridden by primary legislation (e.g. Hybrid Bill), is of itself insufficient reason to exclude it from the evaluation of options. To damage an international site of nature conservation value requires that there be no alternative. In any case the legal agreement only runs to 2019 and this report is looking to 2030, so it clearly must be an option in the latter part of the period. The consultation document also suggests blight and uncertainty as a reason, but that is precisely what that document has caused in Gravesham. This report includes information on Gatwick.

Air traffic control

2.19 One critical element of any airports strategy is the ability of the air traffic control system to handle the proposed number of flights. This is in overall global terms as well as the interactions between various airports and their approaches. The studies have concluded that there are no fundamental problems with air traffic control for the scale of growth envisaged given that the management tools will advance with the passage of time. It did identify that there were problems with a Cliffe airport because of the interaction of it with the approaches to Heathrow and London City when operating westerly take-offs (70-80% of movements in the south east over the past 20 years have been take-offs to the west and landings from the east). There are therefore some issues with Cliffe that need detailed technical appraisal and analysis.

2.20 There have been indications in the press that there is concern over the air traffic control implications of Cliffe from those most closely concerned. It will be necessary to see what their relevant organisations actually say and the views of consultants before arriving at a view on this issue.

Section 3

Alternative Options

Introduction

3.1 The purpose of this section is to explore the other options for meeting projected demand in the south east. This gives an overall context within which the proposals for Cliffe can be judged. It is not intended to be a full comparative analysis.

Base options

3.2 The SERAS report process has looked at a large number of options for each of the airports. Set out in table 3.1 is a set of illustrative options, which the report suggests cover the broad range of choices that exist. Gatwick could provide a predicted usage of 76 mppa with one additional runway, and therefore potentially contribute to meeting demand. Capacity refers to the theoretical throughput of the option (in millions of passengers per year for the south east) and traffic to what would be expected for that option in 2030. The options include all the other existing airports continuing to function as currently.

Figures are millions of passengers per year for the main south east airports	**S.E. Capacity**	**S.E. Traffic**
Base case	154	159
Maximum use of existing runways	199	185
Heathrow – 1 new runway (=3)	229	217
Stansted – 1 new runway (=2)	249	225
Stansted – 2 new runways (=3)	269	243
Heathrow & Stansted – 1 new runway each (=3 & 2 respectively)	276	249
Heathrow 1, Stansted 2 – new runways each (=3 at both)	296	266
Stansted – 3 new runways	293	258
Cliffe – 4 runways	312	272

Table 3.1 Possible Airport Packages

3.3 The first strand of any policy is to make better use of existing facilities. Examples of this include the 5th terminal at Heathrow (due to open in 2008) and the recently approved expansion of Stansted from 15m to 25m passengers per year. In the case of Heathrow the limit on the number of air traffic movements is being reached, so additional passengers implies the use of larger aircraft. This

approach is reckoned to deliver a significant increase in capacity, but not to address the fundamental challenge of meeting the scale of growth anticipated.

3.4 Table 3.2 shows the current size of the main south east airports in terms of passengers and aircraft movements. The average load per aircraft (from these rounded figures) ranges from 139 for Heathrow to 90 for Stansted. The lack of a relationship between freight tonnage and aircraft movements is because of the volume carried in the holds of passenger aircraft.

Airport (data for 2000)	**Passengers mppa**	**Air transport movements**	**Freight (tonnes)**	**Freight movements**
Heathrow	64 m	460,000	1,300,000	3,000
Gatwick	32 m	250,000	320,000	3,400
Stansted	12 m	133,000	168,000	14,000
Luton	6 m	54,000	36,000	6,000
Total	114 m	897,000	1,824,000	26,400

Table 3.2 Current airport usage

Heathrow

3.5 Heathrow is the current prime airport in the UK and the south east. In 2000 64 mppa people and 460,000 air transport movements used it. Terminal 5 will allow this to grow to 89 mppa with 480,000 movements. It is currently a two runway (aligned east –west) airport built round a central set of terminal facilities, but with additional terminal (No. 4) on the south side. The fifth terminal will be located on the west side. This layout means that planes may have to cross one of the main runways, which is inefficient. The suggested option, in addition to terminal five, is a new 2000 metre runway located to the north of the existing airport, between A4 and M4. With terminal 5 the capacity of the airport is 89 mppa passengers, and the new runway would allow this to rise to 116 mppa, which will all be taken up in 2030.

3.6 The runway would cause the loss of 260 homes, take the airport area from 12km^2 to 14km^2, and involve in addition the loss of 230 hectares (ha) of agricultural land in the Green Belt. Assessment of noise is complicated by improvements in air engine technology and the reduction in noise as older aircraft types are phased out. Currently there are 307,000 people significantly affected by noise (57 Leq(dBA)), which would fall to 278,000 in 2030 in the maximum use case despite traffic increasing. With the proposed new runway it would rise to 332,000, an increment of 25,000 over the current position.

3.7 There would be significant air pollution problems, with $N0_2$ levels being breached for 35,000 people in 2015 with the runway and 14,000 in the base case. This figure is highly sensitive to the assumptions made about future technology in both jet engines and other sources, and the model used.

3.8 In 1998 there were 102,000 jobs associated with the airport (68,000 direct on-site, 10,000 direct off-site, and 24,000 indirect). In the base case, jobs are predicted to fall so that the total would be 92,000 in 2030, but 117,000 with a new runway. In between this would rise to 147,000 in 2015. Any additional

employment in an already tight labour market will increase pressures of urbanisation, which could well intrude into Green Belt areas.

3.9 Access to London is via the A4/M4, together with the Heathrow Express and the Piccadilly line. A range of options is under examination at present, including running Crossrail to Heathrow, and extending the Terminal 5 connection out to the south west. The M25 /M4 provides round airport access but this option would require highway improvements, including a tunnel link to the M3.

Gatwick

3.10 Gatwick is currently London's second airport. In 2000 it handled 32m passengers and 250,000 movements from a single east-west aligned runway, 27% of south east demand. Without any additional runway capacity is 40m, which would be reached by 2030.

3.11 Two options have been considered for additional runway capacity. The favoured option is a close parallel on the south side, where currently there are hangars and long-term parking. This would allow simultaneous take off's and landings but the terminals would remain on the north side. Capacity would be 62 mppa, virtually taken up in 2030.

3.12 The close parallel option would increase the airport from 7.7 km^2 to 11 km^2 and take 50 homes. Currently 72,000 lie within 57 Leq (dBA), and by 2030 it will be 63,000 with maximum use and 82,000 with the close parallel. 51,000 jobs would exist compared with 43,000 currently (on/off site direct and indirect), which will put pressure on the local labour market and the demand for housing. Brighton may be able to take some of those pressures.

3.13 Access to London is via the M23/A23, and the main Brighton line, which offers a 35 minute express service as well as a whole range of other routes. Extending south services reach destinations from Hastings to Southampton. There are some direct services to the north via Reading. A package of improvement measures for the railway is expected in any case and would deal with the close parallel case. Some limited road improvements would also be needed.

Stansted

3.14 Stansted was the outcome of the last major round of debates on airport capacity, after a diversion via Maplin (neé Foulness). It currently consists of 1 runway (aligned SW:NE) with a terminal building and a potential capacity of 35 million passengers per annum. Planning permission has just been given to extend operations to 25 million. After a slow start traffic has built up significantly because of the expansion of the low cost operators.

3.15 Options exist for additional 1, 2 or 3 runways, giving capacities of 82 mppa, 102 mppa and 129 mppa respectively. Actual forecast use is projected for 2030 as 26 mppa with the existing runway, 74 mppa with two, 98 mppa with three and 122 mppa with four. At the larger levels of expansion Stansted would become a second hub airport for the south east, and it is suggested would need to be 'seeded' to get it up and running in this mode. This means that one of the airline alliances of operators would be encouraged to move to the airport. With one new runway this would be located nearly 2.5 km east of the existing one and to the

north, and a second addition would be to the north west towards the M11. A third would be a paired twin with the first additional runway.

3.16 Some 100 (1 runway) or 200 (2 or 3 runways) dwellings would need to be demolished. 700 ha (1) or 1,200 ha (2&3) of agricultural land would be lost. Currently 6,000 people fall within the 57 Leq(dBA) contour, which would by 2030 be 14,000 with 1 runway, 24,000 with 2, and 28,000 with 3. Currently there are 10,000 jobs (1998 data so it will be higher now), which with maximum use could rise to 20,000 in 2015 and 18,000 in 2030. With 3 new runways this would become 93,000 jobs in 2030 (56,000 with 1 extra and 74,000 with 2). There would clearly be major impacts on the London/Stansted/Cambridge sub region, though this does include the priority areas of the east London and the Lea Valley. The implications are that a major change in settlement pattern would be needed to accommodate the necessary housing.

3.17 The airport is served via the M11 (for which the junction is just being upgraded), and rail services from Liverpool Street (45 minutes). There are also trains to Birmingham via Cambridge, Peterborough, Leicester, Nuneaton, all of which provide connections further afield. The Strategic Rail Authority (SRA) is currently working on options for upgrading rail access, including a second tunnel, as the current approach is single track and additional tracks in London. 2 runways would require a complete loop back on to the Cambridge main line and significant works elsewhere, especially in London with the provision of additional pair tracks, not necessarily on the same alignment. M25 widening between junction 26 and 27 is assumed in all options. The road network would also need improvement, with two runways requiring the widening of the M11

Luton

3.18 The report assumes that Luton airport has a new replacement 3000m runway, which will enable it to expand to 10 mppa from the current 6m. There are two options for achieving this one with a new parallel runway (the old one becoming a taxi way) or a new alignment. Neither of these has planning permission.

3.19 Up to 10 dwellings would need to be demolished and 100 ha of grade 3 agricultural land would be lost. Improvements would be needed to local rail, bus and road systems. The increase in employment would be from 9,000 to 21,000 in 2030. Luton is identified as Priority Area of Economic Regeneration in RPG9.

Other south east airports

3.20 The possibility of other smaller existing airports in the south east has been considered, including London City, Southampton and Norwich. These have their own niche markets (particularly London City), and would attract more traffic if the overall south east airports system capacity was constrained. Several smaller sites were considered, namely Biggin Hill, Cambridge, Farnborough, Lydd, Manston, Shoreham and Southend. Manston and Southend have potential to handle 2 and 3 mppa respectively and Biggin Hill, Shoreham and Lydd much smaller amounts. Both Cambridge and Farnborough are highly constrained for various reasons.

Alconbury

3.21 Alconbury, a former USAF base, north west of Huntingdon, close to the A1 and A14 trunk roads and the East Coast Mainline is included as a possible specialised low cost airport and substantial freight handler. Its success depending very much on what happens elsewhere. If no further runways were built it could accommodate 5 mppa by 2030 and 1,250,000m tonnes of freight. If additional capacity is provided elsewhere these figures drop to 1 mppa and 250,000 tonnes respectively.

Section 4

Cliffe Airport

Introduction

4.1 Unlike the other options discussed in section 3, Cliffe has no existing airport provision. The impacts are therefore not incremental but start from a base of zero. The logic put forward for looking at a site like Cliffe is that the estuary location minimises the impact from aircraft noise, displaces relatively few people and would support the regeneration of Thames Gateway. The disadvantage is that none of the communications infrastructure exists already, and therefore the cost of building the airport involves significant expenditure before a single plane can land, and it has major nature conservation impacts.

Location

4.2 The potential site is located on the Hoo Peninsular, to the east of the Borough boundary and to the north of the Medway Towns. Figure 4.1 shows the proposed location of the Airport (in its 2 runway version), some 10km east of Gravesend. It could more accurately be described as being at High Halstow or Allhallows. The area consists of marsh land stretching round the southern edge of the Thames Estuary and a ridge of mainly London clay that meets the sea at All Hallows. At Cliffe village itself there is 20m AOD (Above Ordnance Datum) ridge of chalk, which then dips steeply down under the Thames, buried under a considerable depth of alluvium. At High Halstow the higher ground reaches an altitude of over 55m AOD. Allhallows is just over 20m AOD, with a high point over 40m.

4.3 The basic proposal is to level the required area to produce a platform at 18m AOD, on which the airport runways, taxiways and terminal buildings would be built. The precise location and size of this platform would depend on the size of airport being built and the ideal of balancing cut and fill. Four options have been evaluated:-

- Option *A2(2)* Pair of wide spaced independent runways
- Option *A2(3)* As *A2(2)* plus NE:SW runway
- Option *A2(4)* Two pairs of close parallel runways
- Option *A2(5)* As *A2(4*) plus NE:SW runway

Note the option numbers have been put in italics to avoid confusion with the A2 trunk road. Figure 4.2 shows the 4 runway version, with the possible addition of a NE:SW runway. It is the four runway version for 2030 that forms the option that it being formally consulted upon as one of the packages. Two runways would open first, and is what is appraised in 2015.

4.4 Options *A2(2&3)* provide a capacity of 77 mmpa and 530,000 annual aircraft movements, whilst *A2(4 & 5)* allow these to rise to 113 mppa and 781,000 respectively. The function of the NE:SW runway is to allow night time take-off's and landings, thus permitting 24 hour operation. The layout places the runways on a roughly east-west pattern either side of the central terminal area. In options *A2(2&3)* the north and south runways can operate independently for both take-offs and landings, whilst in the four runway case the runway pairs are used for

take-off and landing. The airport is assumed to play a significant role in freight, with a considerable proportion of flights being specifically for that.

4.5 The construction logic is that the platform would have to be built in one operation, and in the four runway option the 2 extra runways could be added at a later date as demand developed. The appraisal work assumes two runways in 2011 and the additional two in 2021. The notional airport terminal layout assumes a main building on the west side of the site, with a series of north-south islands built from west to east as demand expands and connected by means of a transit system. Aircraft stands would be between these islands, allowing access to the northern or southern runways as required.

Access

4.6 Access to the airport would be both road and rail. Figures 4.1 and 4.2 show the proposed system, whilst figure 4.3 places it in the wider context for rail. Road connections would require a 2 lane dual carriageway link from Cobham Services (called West of Shorne Wood in the documentation) on the A2 (west facing slips only), via Thong and Hoo junction to a major road junction in the vicinity of Oakleigh Farm, Lower Higham, on the Borough boundary with Medway. A 2 lane dual carriageway link to motorway standard would run from M2 (east facing slips only) at Three Crutches (called Shorne Ridgeway in the documentation) to the same point, running initially south of the Wainscott Northern Bypass, but crossing over in the vicinity of Little Hermitage. From this large interchange a 3 lane dual carriageway to motorway standard would run east to serve the airport, with a spur to the Isle of Grain for Thamesport and the former refinery site, which is assumed to be used for airport support uses.

4.7 To the north a 2 lane dual carriageway runs under the Thames from Lower Higham at a point just west of Cliffe Jetty, to connect to the A13 – a Lower Thames Crossing (LTC). In the 4 runway case an additional tunnelled link (2 lane dual carriageway) is required to run due north from the airport to Benfleet via Canvey Island. The A13 would require improvement between A1089 and A128, and the M25 would require four lanes between junction 26 and 29 in both options.

4.8 Local rail services (see figure 4.3) would be via a much upgraded Isle of Grain branch to Hoo junction, with connections onto the North Kent line in both directions, giving services to Kent Thameside and South East London in one direction and the Medway Towns, Maidstone and beyond in the other. With a new chord at Maidstone it would be possible to run to Ashford. A high speed link would join the CTRL on the east side of Gravesend, linking onto the 4 track section of the freight loops at Singlewell. These would be extended from just east of Wrotham Road through to Southfleet junction to allow trains to run to Waterloo via Fawkham junction and Bromley without reducing CTRL main line capacity.

4.9 Assuming the Lower Thames Crossing were multi modal it would be possible to reach the Tilbury line for access to Fenchurch Street. The report assumes that this would also give access to Crossrail, taking over services currently proposed for Shenfield. With the four runway option an additional fast connection would be required to loop around the north of Tilbury to access the CTRL at Wennington,

avoiding the need to run via Ebbsfleet. There is also a link shown from the Lower Thames Crossing direct onto the North Kent line in the Strood/Higham tunnels, as part of the Lower Thames Crossing's wider functions. This would allow freight trains, using the proposed chord at Maidstone, to run from the Channel Tunnel to the north side of London.

4.10 Given the physical connections made there are a range of different service patterns that could be employed, but those used in the analysis are:-

Service Pattern	Trains per hour	Time to terminus	Runways
Cliffe – Gravesend – Dartford – Woolwich or Bexleyheath or Sidcup – London Bridge – Charing Cross (local)	6 tph	62	2 & 4
Cliffe – Medway Towns – Faversham - Ramsgate/Dover (1 tph each)	2tph	74/67	2 & 4
Cliffe – Maidstone West – Tonbridge – Gatwick (local)	2 tph	91	2 & 4
Cliffe – Maidstone East – Ashford (local)	2 tph	47	2 & 4
Cliffe – (via Ebbsfleet) – St Pancras (Express)	2 tph	30	2 only
Cliffe – (via LTC) - St Pancras (express)	4 tph	22	4 only
Cliffe – Ebbsfleet – St Pancras	4 tph	26/30	2 only (2 tph with 4)
Cliffe – Bromley – Waterloo (express)	4 tph	33 mins	2 & 4
Cliffe – Grays – Upminster – Barking – Fenchurch St (local)	2 tph	56 mins	2 & 4
Cliffe – Pitsea – Southend – Shoeburyness	2 tph	45	2 & 4
Cliffe – (Crossrail) – Central London – Heathrow	4tph	75	4 only

Table 4.1 Possible rail service patterns

There are also options for through services to the east coast mainline, though the analysis suggest they would not generate much traffic. Note is also made of possible *Fastrack*, bus and ferry services that could serve the airport as well. Given the physical infrastructure there are a number of service patterns that could be operated.

Traffic levels

4.11 Projections have been done for traffic levels for both employees and air passengers in the various options. Here they are presented just for the 4 runway option in 2030. It is assumed that there will be 52,300 employees on site and 113 mppa (26 mppa international to international - 23%), so 87m require surface access. Existing airports, even with limited night operations, generate trips from passengers and employees across the whole day and night, a 24 hour airport even more so. Relatively few elements of the current public transport system offer anything approaching a 24 hour service. The modelling shows 33% of workers trips would be by public transport. For passengers the split is given as 47.7% public and 52.3% private.

4.12 The railway system would experience overcrowding at peak time, perhaps requiring alterations to the service pattern, in which a significant factor appears to be the attraction of London commuters onto airport services. This includes commuters 'diverting via the airport to join trains'. The areas of the road network that would be under stress in 2030 are noted as M25 junctions 2-12 (Dartford to M3 and junctions 23-29 (A1 to A127). There is no mention of the A2.

Implications for the local economy

4.13 The airport would create a considerable number of jobs, in the order of 53,000 with two runways in 2015 and 79,000 in 2030 with four for jobs directly related to the airport, some of which will be off-site. The core catchment is seen as being Medway Towns, Gravesham, Dartford, Thurrock, Castle Point, Southend-on-Sea, Basildon and Rochford. This area currently has 100,000 more workers than jobs, thereby creating a potential workforce for the airport. As Thames Gateway is a national priority area for regeneration, the airport would have a major role in meeting its strategic objectives in an area that has under performed in the past.

4.14 Employment land requirements could be met in quantitative terms from brownfield sites in the Medway Towns, particularly sites like Grain and Kingsnorth. On housing the existing RPG9 allows for 162,000 households in addition to the 776,000 that already exist in the core catchment area. On the basis of rolling forward the housing provisions in RPG9 from 2006 to 2031 it is felt that there is a sufficient supply of land for housing these workers, especially when account is taken of the scope for clawing back workers who currently leave the area. It is noted that North Kent in particular has a range of brownfield sites to be recycled for housing and employment.

4.15 On a wider scale as well as Thames Gateway it is claimed that the airport will play a major role in regenerating East Kent by building up the employment base and therefore confidence in the area. It is accepted that it may generate pressures for additional land, especially housing, in a high growth scenario. The improved transport access is seen as a major bonus, and the cut in out commuting will allow more efficient use of the transport system.

Costs

4.16 Estimates have been made of the capital costs of the airport, which are set out in summary form in table 4.2. The costs have been prepared on a very generalised basis, for example no specific allowance has been made for treating the marshland. Equally a more detailed analysis of the cut and fill operation for the platform may result in a minimisation of the works required and therefore cut the costs. The same approach has been applied to transport links. Two major cost elements, which are not included, are the Lower Thames Crossing (LTC), assumed to be provided prior to the new airport, and the costs of environmental mitigation. For the latter an area has been identified, the Wensum Channel, Thanet, for which an estimated cost, is given of £230 million. No LTC cost is given but a crude guestimate would be in the order of £750m assuming both road and rail. These two items add around £1b to the totals below. The argument is made that LTC would be provided at some point anyway, but the airport would have to meet the cost of bringing it forward in time and any additional costs brought about by its location.

4.17 To give some measure of comparison adding a new runway at Heathrow would cost £5.2 bn, one extra runway at Gatwick £1.852 bn and three runways at Stansted £7.9 bn on the same basis as the Cliffe costs.

Item *Figures in £m*	***A2(2)* – 2 runways**	***A2(4)* 4 runways**
Airport		
Terminals	1479	2181
Runways, taxi ways etc	686	825
Earthworks etc	1873	1992
Other works and infrastructure	857	1084
Navigation Aids	72	84
Cargo & Maintenance	283	413
Support facilities	494	646
On-costs	1436	1806
Contingency	1795	2258
Land costs	189	190
Sub Total: Airport Costs	9,164	11,479
Road Schemes		
A2 to Lower Higham	52	52
Lower Higham to Airport	38	38
M2 to Lower Higham	51	51
Cargo Area Link	45	45
Benfleet link	0	360
Lower Thames Crossing Approaches*	35	35
Sub Total: Roads	221	581
Rail schemes		
Upgrade Grain Branch, connect to NKL & CTRL plus CTRL 4 track extension	280	280
Airside tunnel & station	156	156
Aylesford chord at Maidstone	25	25
High speed connection Lower Thames Crossing to CTRL at Wennington*	0	750
Sub Total: Rail	461	1,211
Total	9,488	13,272
* Lower Thames Road/Rail Crossing not included		

Table 4.2 Capital Costs

Section 5

Environmental Impact

5.1 This section explores the environmental impact of an airport at Cliffe, excluding the economic considerations, which are dealt with in the next section. The impact of the support transport infrastructure is also covered, which is not evaluated in the main consultation documentation. Option *A2(4)*, four runways, has been taken as the base version.

5.2 Certain environmental factors were evaluated with a methodology (also being used in the multi modal studies) to assess the significance and severity of different impacts. There a four assessment categories, as follows:-

H*A	High* Adverse – in isolation could have a material influence on decision making
HA	High Adverse – in isolation a material influence on decision making
MA	Medium Adverse – some influence on decision making, particularly when combined with other factors
LA	Low Adverse – negligible influence on their own, but with other factors may be material

People and buildings

5.3 As previously indicated the proposed airport, depending on the precise configuration, would involve a land take in the order of 26 km^2. Some 1100 existing or planned properties would be lost, including holiday homes, giving 783 actual households. This is rated Low Adverse compared with the 'planned housing provision for new development in the area'. 24 ha of land with existing commercial uses, 2 places of worship and a school would be lost. 2,221 ha of agricultural land, of which a significant proportion is Grade 1, would be required. 13 ha of recreational land and 2.8km of the Saxon Shore Way would need to be diverted. One Grade 1 (Church of All Saints Allhallows), one Grade II* and 8 Grade II listed buildings would be lost and the St Mary Hoo Conservation Area. Cooling Castle (Scheduled Ancient Monument) lies just outside the airport boundary. 26 undesignated sites of prehistoric, Roman, medieval and post-medieval periods would be lost. In addition 2,397 ha of land are identified as having unknown but potentially high archaeological value.

Comment

5.4 A considerable area would be required for the airport as it is very land hungry, with the effective destruction of whole communities. The classification of this as Low Adverse is somewhat surprising, as it is at a highly significant scale for the Hoo Peninsula.

Nature conservation

5.5 The nature conservation issues lie at the heart of the environmental objections to this site. Land-take would occur from Thames Estuary and Marshes Special Protection Area (SPA) & Ramsar site and the Cooling Marshes Ramsar site (see

figure 5.1) is relatively small, but of international significance. There is also an Site of Special Significance Scientific Importance (SSSI), which is also a National Nature Reserve, owned by RSPB (Northward Hill), which would be lost. The area is important for wetland bird populations and is highly sensitive to noise and disturbance. Not only would the airport destroy some areas, but also it would introduce a major source of noise and disturbance next to extensive parts of a range of sites in the vicinity. Potentially it could impact on the overall integrity of the Thames and Medway Marshes system. Also of significance is management necessary to avoid bird strikes, where a much larger area is affected. The creation of the 18 m platform will upset the water levels in the marshes. Taken together these produce a High Adverse effect.

Comment

5.6 It is appropriate at this point to outline the context in which nature conservation impacts of this scale have to be placed, drawn from PPG9: Nature Conservation. Of specific importance are Ramsar Sites (Wetlands on international importance) and Special Protection Areas (SPA's – EC Directive on Conservation of wild birds). Article 6(3) and 6(4) of the Habitats directive, which applies to the Birds directive (see Annex A of PPG9) says:

> "…that propose developments, not directly connected with or necessary to site management, which are likely to have a significant effect on an SAC or an SPA, either individually or in combination with other plans or projects, should be assessed according to their implications for the site's conservation objectives. The development may go ahead if, as a result of that assessment, it is found that it will not adversely affect the integrity of the site. If the assessment shows there will be a negative effect, the scheme may only be allowed if there is no alternative solution and if there are imperative reasons of overriding public interest, including those of a social or economic nature. In such instances, Member States must take compensatory measures to preserve the overall coherence of the Natura 2000 network."

The proposal has a very significant impact on several SPA areas that are of international importance, and therefore the test set out above is the appropriate one to apply.

Landscape

5.7 There is no land take from the Green Belt (see also below), but there is the loss of 3.8km of undeveloped coast (see figure 5.2). The land-take is 90% greenfield. The site will be visible, being set in a large relatively flat landscape, from across the Thames and Medway, as well as up and down the Thames estuary. To the south the Hoo Peninsula forms a barrier, but there are potential views from the Higham and Shorne areas. There is also a large loss of countryside designated as a Special Landscape area.

Comment

5.8 The airport would represent a major intrusion into a generally flat and open landscape, which also has important literary associations. Absent seems to be any reference to the effect that aircraft taking off and landing would have in

signalling the presence of an airport even if it were not possible to actually see it directly.

Water

5.9 The area is in part marshland, which lies within the Environment Agency's 1000 year flood level area (see figure 5.3). There are no recognised surface water courses. Water supply is currently fully committed so an operational airport would place an additional demand on the system, where the local aquifer is already over-licensed for abstraction. Water resource development would have to take place elsewhere, for example the Bewl-Danwell reservoir system. The building of the 18 metre platform would solve the risk of flooding for the airport site itself, but may cause problems elsewhere on the peninsula.

Comment

5.10 Water is clearly a key issue, and even more so if the development generated by the airport is added to the equation. This is however a common feature of major development proposals in the south east, including the various airport options. The flooding issue is of rather more concern as these marshes form part of the area that can flood in the event of a tidal surge. The full environmental assessment would need to explore whether this loss would cause problems or not, elsewhere in the Thames Estuary.

Noise

5.11 Figure 5.4 shows the 2030 noise contours (dB $L_{Aeq,16hr}$). Some 70-80% of take offs in south east England are to the west and landings from the east, due to the prevailing westerly wind. The contours reflect that and the need to turn south or north on take off to avoid air traffic conflicts with Heathrow. As already stated Medway and Kent County Councils have employed consultants to look in detail at the environmental impact of the scheme. This will include a full assessment of the noise impact covering the whole of north Kent together with the impact of 24 hour flying. The results of this will inform the development of the council's reply to the formal consultation. The Government have produced the predicted noise contours using the same model as the Civil Aviation Authority (figure 5.4) and the 57dB $L_{Aeq,16hr}$ figure is commonly used as an indicator of the onset of significant community annoyance for aircraft noise. The report does however make the point that there may be some errors in the predicted levels, as the reduction in noise levels from aeroplanes may not happen by 2015 unless the government and industry take determined action.

5.12 The option for Cliffe in 2030 with four runways predicts that there will be a significant area in the east of Gravesham affected by noise levels from aircraft above 57dB $L_{Aeq,16hr.}$ All options for airports in the south east have larger populations of people affected by aircraft noise when compared with Cliffe. They are however all starting from a point where airport noise is already part of the population's experience. At Cliffe there is no noticeable noise from aircraft experienced by the local population and therefore the initial impact will be greater.

5.13 There is little information on nighttime aircraft noise as government policy is being developed on this and will be separately consulted on by 2003. It is clear again that if night time flying does happen, Cliffe will have an albeit small

population newly affected which would not be the case in other areas where people are already experiencing night flights. The report does say on the limited amount of prediction work done that the number of people affected by easterly arrivals on the NE/SW runway, if built, is higher than the numbers affected in other scenarios. On Easterly operation, this data suggest that noise impacts would be minimised by using one of the northern runways for arrivals and one of the southern for departures thereby obviating the need for a NE/SW runway. The report does not cover what the effect would be for westerly operations.

Comment

5.14 Noise is a major technical issue that requires more work, but also one with serious implications for Gravesham residents, especially in the Higham/Shorne/Cobham corridor. To assess the position fully requires separate assessments of take-off's and landings by direction, and then place these in the context of the change in noise climate to those affected. What happens at night is of particular interest. Should the noise contours move into the urban areas north or south of the river, the size of the population affected could rise significantly.

Air quality

5.15 The air quality statistics used as assessment criteria for defining poor air quality in the report are the annual mean Nitrogen Dioxide concentrations of 40 micrograms/m^3 and the 90th percentile of running 24-hour mean PM_{10} (fine dust) concentrations of 50 micrograms/m^3. The report states that for both the two runway option at Cliffe in 2015 and the four runway option in 2030, no people are exposed to an exceedance of the air quality statistics for mean Nitrogen Dioxide (NO2) and for annual mean PM_{10} or 90th percentile of the 24 hour mean PM_{10} within the study area for air quality. The report states that the addition of the NE/SW crosswind runway would not be expected to alter this.

5.16 The study also shows that expressed as a simple average, airport related oxides of Nitrogen account for 56% of total oxides of Nitrogen in the Cliffe study area. The figures show that the road access to Cliffe within the study area is not creating areas of exceedance. What the report does not show is that outside the study area it is highly likely that the increase in traffic highlighted in the report will significantly add to the pollutant levels on the main roads in Gravesham. The A2 is already a declared Air Quality Management Area for Nitrogen Dioxide and this will add to and increase the area of this poor air quality zone. As previously stated in the consideration of the noise impact on this area the main difference with Cliffe as against all the other options is that the existing airports will already have an effect on the air quality of these places. At Cliffe there is no airport and therefore the air quality impact there and on the surrounding area will, as a percentage increase, be much greater than in the areas of the other options.

Comment

5.17 Again more information is needed, with particular reference to the impacts on the Air Quality Management Zone of the A2 and the implications of the new highways.

Other impacts

5.18 There are three contaminated sites, all land fill, of potential contamination plus the possibility of find unexploded ordnance. 230 properties would be directly affected by construction impacts.

Comment

5.19 Construction impacts need much more detailed examination since access to the area is not good until new roads are built.

Comparative impacts

5.20 The table 5.1 compares the impacts of various airport options using the grading scheme given above, as appraised by the study consultants. It is important to keep in mind that as the other three are existing airports the impacts are incremental, whereas at Cliffe they are from a zero base. It is equally clear that Cliffe ranks the worst in term of impacts, against which have to be set the benefits.

	Heathrow 1 runway	**Gatwick 1 runway**	**Stansted 3 runways**	**Cliffe 4 runways**
Land use	HA	HA	HA	HA*
Contamination	LA	MA	HA	HA
Ecology	LA-MA	LA-MA	HA	HA*
Heritage	HA	HA	HA	HA*
Landscape & Visual	LA	LA	MA	HA
Community	MA	MA	HA	HA
Construction	MA	LA	MA	HA-HA*

Figure 5.1 Comparative Impacts

Transport infrastructure

5.21 Whilst the reports includes some data on noise and air pollution impacts of the transport links there is no clear appraisal of their other effects. As the only plans available must be regarded as diagrammatic no attempt has been made at precise quantification since this might be misleading. Figures 4.1 & 4.2 show a rail connection at Singlewell east onto CTRL, but nowhere in the text is this referred to so it has been ignored. The alignment of the CTRL is incorrectly shown on these plans. The junctions of both road and rail at the A2/CTRL would be considerably larger than implied, for example the railway could not cross the A2 and then start its curve onto the CTRL, the minimum radius being more like that found at either end of the Waterloo spur.

5.22 Transport infrastructure that is in Gravesham is located in the Green Belt and therefore is introducing an urban element (e.g. lit roads) in an area, which currently is only a narrow gap between the Medway Towns and Gravesend (and London). The A2/M2 and CTRL form an east-west corridor, whilst the two new major roads and a railway would run north-south through relatively peaceful areas. The village of Thong, which is a conservation area, would either suffer partial demolition or at the very least disturbance from a 2 lane dual carriageway road and a high speed railway running from A2 to Higham Church Street. The area south of the A226 is Special Landscape Area, forming the foreground to the

Kent Downs Area of Outstanding Natural Beauty (AoNB). The area within the AONB at Shorne Woods is a SSSI and a country park.

5.23 The interchange at Lower Higham (which could have 2 or 3 levels) is next to the Higham Church Street conservation area. The marshes are a Ramsar site and a SSSI, and the implications of a major multi-level interchange have to be aggregated with those of the airport. The interchange is also within the 1,000 year flood level. A number of areas of potential archaeological importance are identified along the routes. At Hoo junction there is the problem of land contaminated with asbestos. At Three Crutches, in addition to property demolition, and the impact on the AONB, Colewood reservoir would be affected (the widened M2 is now about as close to it as is feasible). At this location, at the Feeder Station and from Wrotham Road to Southfleet junction, the CTRL landscaping would be affected. The four tracking would remove potential freight capacity and add to the volume of traffic, boosting noise and disturbance, thereby affecting the level of mitigation required.

5.24 Data in the reports indicates that in 2015 13,400 people would suffer LA10 (18 hour) noise, and 18,600 in 2030. The rails schemes would impact on 3,400. There is no indication where these people are, or even which roads have been included in the analysis. There must also be some air quality impacts.

5.25 There would be a step change in rail services, but at the same time they would be orientated toward serving the airport (e.g. the express services to St Pancras and Waterloo). On CTRL

5.26 There would be a step change in rail services, but at the same time they would be orientated toward serving the airport (e.g. the express services to St Pancras and Waterloo). On CTRL services are being diverted that are currently assumed to be serving Kent Thameside or further east. The failure to identify the A2, despite widening and a Lower Thames Crossing, as a problem for traffic is surprising, but this may be related to the way the modelling has been done, which is discussed further below.

Comment

5.27 Additional work is required to understand fully what the impacts are and the assumptions that have been modelled. Without fully worked up schemes with mitigation it is difficult to produce meaningful results. The transport links must introduce a significant increase in noise and pollution in areas that do currently experience them, and may make some existing problem areas worse.

Discussion

5.28 The environmental appraisal has not yet been carried out to the level of detail required by an environmental assessment, and that was not the objective of the work done. It is however clear that it is highly significant in both human, ecological and landscape terms. It is not simply about a new airport, but about the entire transport infrastructure that goes with it, which will be used 24 hours a day if the airport is to be a success. Mitigation measures can be taken for a lot of impacts, and no doubt there would be a requirement for a package of measures of both direct mitigation and compensation as was obtained from CTRL, but on a much larger scale. From the Gravesham perspective the corridor on the east

side of Gravesend is viewed as a very precious area, and hence the focus on it in the regional park concept (the overall positive management of the area for agriculture, ecology, landscape and employment). It is a valuable resource for nature conservation, landscape and agriculture, as well as of course the people who live there.

5.29 Whilst a new road or railway is a known disturbance at a specific location, aircraft are not so constrained except by the air traffic control system, which may alter flight paths. The picture presented is an average position without regard to background noise. It will be important to establish the change in noise climate with easterly take-offs (the norm), westerly (with aircraft approaching) and at night. Apart from double glazing there is very little that can be done for the areas affected to mitigate the effects. This could have wide ranging social affects, as well as affecting regeneration by perception if not in fact of noise disturbance. A number of properties would appear to get demolished, though nowhere near the numbers in Medway by the airport itself.

5.30 The nature conservation implications are of major significance as they bring an international dimension to the debate. The test set out in paragraph 5.6 is a useful way of looking at the issues. Given that the reports admit that there is a major impact, on this ground alone, it is necessary to ask whether any of the following conditions is met:-

- are there alternative solutions?
- are there imperative reasons of overriding public interest, including those of a social or economic nature?

The next section addresses the latter point.

Lower Thames Crossing

5.31 One issue that requires particular mention is that of the Lower Thames Crossing, which the documentation does not cost on the basis that it will have been already provided. Since there are no current formal proposals for such a crossing, let alone an approved scheme, this is not a valid assumption. The airport would have to provide it, though in terms of funding an airport developer would no doubt argue that others should contribute towards its cost as indicated above. The objective of it is being to spread the road traffic load over the A2 and A13 as it seeks to access London and the M25.

5.32 The concept is certainly being discussed (e.g. Regional Transport Strategy, M25 Orbit Study) but these only point to a concept that needs studying as opposed to making specific proposals. The LTC shown on the plans would perform a potentially much larger role than just being part of the airport access arrangements, and as such immediately raises questions of what happens along the A228 corridor from the M2 to M20, and north from the A13 if it were to relieve parts of the M25. The railway connections shown would allow freight to reach north London, but further infrastructure would be required to make that concept work.

5.33 It is important to note that even if the airport proposal is not taken any further forward, it is reasonable to assume that the concept of the LTC (not necessarily in this form or location) will still need to be considered.

Section 6

Economic and Social Impact

6.1 This section examines the economic and social case put forward for Cliffe, which is claimed as one of its main benefits. This can be looked at in terms of Gravesham, Kent Thameside, North Kent and Thames Gateway, as well as the wider national interest. Key issues for the Borough are:-

- Would an airport at Cliffe advance or hinder the regeneration of the area, taking account of the fact that it is not the way in which it has been envisaged in the past?
- Is that case sufficient to overcome the prima facie objection that the environmental, particularly nature conservation, issues raised?

In this context it is important to keep in mind the implications for housing and employment land (and their knock-on effects), not just the jobs numbers themselves. The Kent Thameside Vision, which aims at 50,000 jobs and 29,000 homes, does so on the basis of the transport accessibility brought about by a combination of CTRL and government policy. It seeks the creation of a significant node, with an emphasis on B1 office development. It is one vision of the future, whilst Cliffe airport is clearly another. Different does not necessarily mean better or worse. It is important to keep in mind that the Kent Thameside Vision is of itself a radical step change for the area.

6.2 Impacts of the airport can be looked in two ways. Firstly there are the direct impacts of the airport employment (which includes off-site employment). These give rise to a demand for labour, which may be met from the local labour market, but may also be met by labour that moves to the area to take advantage of the opportunities. This in turn generates a demand for additional housing. Then there is the wider economic effect, the 'Heathrow effect', which has attracted businesses to the Western Corridor. The logic here would be that this would drive the wider regeneration of Thames Gateway.

6.3 Different parts of the various documents use slightly different estimates of direct employment, but table 6.1 gives a broad overview.

	2 runways – 2015	**4 runways - 2030**
On airport employment	35,000	52,200
Off airport employment	18,100	27,300
Total	53,100	79,500
Off airport land take	65-145 ha	98-219 ha

Table 6.1 Airport employment

Note that these figures cover just the direct effects of the airport and do not take account of any multiplier effects or employment attracted by the existence of the airport. They are therefore minima.

TEMPRO

6.4 Critical to the understanding of the arguments is a brief technical diversion into TEMPRO, which is used as the basis for evaluating these effects. These are the

forecasts used by Government, which are derived from Office of National Statistics (ONS) data on future population and households (and therefore labour supply) and forecasts of employment growth. They are all essentially trend forecasts and as used in the study are 1998 based, controlled to regional totals. Therefore on housing they tend to show that there is substantial expanding demand for housing because of the fall in the average household size. Hence the debate across the south east on future housing provision. On employment the assumption must be that they are showing a continuation of existing trends – which for Kent Thameside is probably fairly low growth. Bluewater for example will not be included in the figures because it did not open until 1999. These forecasts have caused problems for Kent Thameside in the past, as they do not reflect the policy direction provided by RPG9a, particularly in relation to jobs. The forecasters problem is that because of the overall regional control totals, putting employment in one place means that it would have to be removed from somewhere else.

6.5 For Kent Thameside the employment forecasts are therefore probably understating the employment creation expected, the impact this then has on the labour market and therefore the housing that will be required to support them. Ebbsfleet on its own represents 20,000 jobs, which is intended to act as a major counterweight in the outer Thames Gateway to the current focus on commuting into London. It has been shown that reverse commuting would be required out of London to support this development. An alternative view might be that the airport would provide the jobs and that Kent Thameside should supply the homes.

Employment

6.6 On jobs, the logic of the argument is that the Thames Gateway is an area of under-performance, which has resulted in high unemployment and high out-commuting rates. The airport will provide that counter attraction, but on a much larger scale, that Ebbsfleet would. The core catchment is defined as Medway Towns, Gravesham, Dartford, Thurrock, Castle Point, Southend-on-Sea, Basildon and Rochford. This catchment is the area of search for locating the off airport jobs needed to support it set out in table 6.1. Within just the Medway Towns there are substantial sites (including Grain, Kingsnorth, Rochester Airfield and Strood waterfront) which could on their own provide sufficient land for the off site employment needs. Spreading the net wider they identify locations in other areas, including Gravesham, which might meet this need. Their lack of local knowledge shows in that they assume 20ha of land availability at Ebbsfleet outside the planning application boundary – which is actually the Blue Lake. That said whether the actual employment uses would be appropriate to the range of sites suggested is something that needs to be tested.

Housing

6.7 The basic inputs are the TEMPRO forecasts and the figures contained in Regional Planning Guidance (RPG9). The latter however only covers the period to 2006 and assumes an annual rate 5,700 per year for the whole of Kent (including Medway). The Dartford & Gravesham contribution in options 1 & 2 in the Kent and Medway Structure Plan Consultation was 9,400 for the period 2006-2016. If this rate is rolled forward to 2031 plus the figures for 2001-6, the result is 27,000 homes. This is in line with the 29,000 suggested in RPG9a for the area,

and suggests that the assumption made is correct for this sub area. This does not mean that the same applies to other areas in the core catchment. For example in Medway the Chatterden/Lodge Hill site is noted as no longer being developable, and must affect their long term housing land supply.

6.8 The work of the consultants is needed to fully explore this, but the approach assumes that the extrapolated housing numbers can be delivered and used for airport workers. This ignores other claims on the land supply and the feasibility of the assumption (which seems to be derived from Kent figures not those for Essex). Once certain key large brownfield sites have been developed (e.g. Eastern Quarry with 7,250 homes) these cannot be repeated and the issue then becomes one of fresh land take, probably green field, and possibly Green Belt. This opens up an entire sub regional issue of where such growth might be accommodated – Medway Towns, Kent Thameside, Mid Kent just to take the local examples but south Essex needs to be considered as well. If long distance commuting to the airport is allowed, there may be a role for Ashford and East Kent to play.

Critical issue

6.9 A critical issue in the modeling is whether the TEMPRO labour forecast includes or excludes airport employment. The latter assumption has been made at the other airports studied, which is reasonable since they already have considerable numbers of aviation jobs with a history of growth. These will be already factored into a trend forecast. Cliffe does not have this by definition, and there is a judgment to be made as how far airport jobs replace jobs that would have been created from other sources or are in addition to them. In 2015 assuming the jobs are in the trend, and the airport has opened and been 'seeded' as a hub (i.e. a major airline alliance has moved there) there would be a requirement of between 0 and 3,977 new homes over and above what is assumed to be provided by the RPG figures. If only 50% of the jobs are already in the forecasts, then up to 27,921 extra dwellings would be required between 2000-2015 (2 runways) or 23,790 between 2000-2030 (4 runways), according to the urbanization study. What is needed is a clear forecast of Kent (and Essex) with and without the airport for both jobs and housing.

6.10 The reports also outlines a logic that points to the 100,000 workers in the core catchment who leave the area everyday to work outside it. Some of these are ripe to be clawed back to work in the area at the airport. While that could be a reasonable case, it ignores where a good proportion of them actually work, which is the City of London (in the wide sense of the term). It is unlikely that the City is going to allow its labour force to be attracted away assuming it still needs it, and will use price to retain it. There may be less flexibility in this area than might be assumed from the raw numbers. Ebbsfleet is attempting a similar approach, but with an office jobs approach, whilst the airport has a different profile. Further works is needed on the match between the local labour market and the jobs that the airport would create

6.11 On the commuting theme the reports talk of people using the airport express services to commute into Central London. This requires that commuters travel to the airport by some means, park at what can be assumed to be high cost, and then use a premium fare service. A particular gain is seen for those from

Medway Towns to use the services from Cliffe to Waterloo. The services may be fast, but they will not be that fast compared with traditional routes when the additional time penalties and costs are taken into account. This is a further example of model results not tying up with real world common sense

6.12 The relevance of this is that if the housing and employment numbers prove to be underestimates, a further knock-on effect follows. That is the transport assumptions have to be changed, and the impact of flows could be considerable and require a different transport infrastructure to the one set out in the reports.

Other concerns

6.13 For Gravesham there must be a concern that blight from aircraft noise, actual or perceived, acts a deterrent to both employment and housing development. This is compounded by the uncertainty that the proposal brings in the short term in any case. There is also a timing issue for the whole of Kent Thameside. Ebbsfleet opens in 2007 and it will provide, through the change in accessibility CTRL offers, a major boost to development. This airport will come on stream at least 5 years later if not more. However the momentum for Kent Thameside is building now and it would not be desirable to see it dissipated.

6.14 A final matter is that without an airport, how would Kent Thameside access airports. The obvious destinations are Heathrow, Stansted, Gatwick and Luton, and much depends on the future provision of additional capacity on both road and rail. A vision of the future pattern would be direct access via Crossrail from Ebbsfleet to Heathrow. This would not be particularly fast or make provision for large quantities of luggage, but it would be direct. Stansted could be reached via CTRL to Stratford and then a service up the Lea Valley, which has been mooted. Luton could be reached via Kings Cross changing onto Thameslink, or direct Thameslink services if they exist. Gatwick can be reached via London Bridge or Kings Cross. The route via Maidstone and Tonbridge is circuitous and slow.

Summary

6.15 The arrival of an airport would be an undoubted economic benefit to the area because it would provide jobs. It would clearly be a totally different way of regenerating Kent Thameside to that previously envisaged. It would be on a different timescale, since the airport would not exist until at least 2012 if not later. There would of course be construction jobs before then on a large scale. The coming of the airport may act as a deterrent to investment because of the uncertainty it may cause – resulting the postponement of investment decisions. The impact, real or perceived, of noise may discourage certain areas for receiving investment or only lower grade investment.

6.16 The scale of the airport is out of all proportion to the local catchment, and the introduction of a LTC does help with this, by extending it to include South Essex. Assuming the general hypothesis outlined above is found to be true, the employment/housing projections look as though they seriously underestimate the impact, which will in turn knock on to transport. The impact on housing land supply will therefore be significant. The extreme version of this would be that areas like Kent Thameside become mainly housing, living off the airport, with possible significant releases of fresh land in the long term. This scenario also

illustrates the risk of becoming to dependent on one particular strand of economic activity.

6.17 Thames Gateway argument rest of the assumption that it can be made to perform like the western corridor. That remains to be proven. Airports are important, but not that important for most businesses. Access improvements also as ever work both ways, so if Cliffe were very accessible existing businesses might not need to move.

Section 7

Blight and future timetable

Blight

7.1 In a formal legal sense there is no blight. This will not occur until the Secretary of State has issued a formal safeguarding direction, as happened with Channel Tunnel Rail Link. It is only at this point that the proposal will show up in a Local Authority search. Most of the Borough is not directly affected by the airport itself in the sense of land take, the exceptions being the areas that may be affected by the transport infrastructure. At present all we have are the diagrammatic plans which if the project were to proceed, would no doubt be subject to considerable refinement. For those residents and businesses who feel, or know because their property will not sell, that they are blighted there is no recourse. Property will not be taken until CPO powers are exercised. What arrangements are put in place prior to that for voluntary purchase will depend on the body that takes the process forward.

7.2 For normal transport schemes compensation can come in a number of forms, assuming that outright purchase cannot be obtained. Double glazing or other environmental works may deal with some impacts. A year and a day after the opening of a scheme it is possible to claim compensation for loss of value, provided of course that it has occurred as a direct result of the scheme.

7.3 It is highly desirable that blight is removed as soon as possible – either by the Cliffe proposal being rejected or by an actual scheme being selected so it becomes statutory, and at least a major element of uncertainty is removed.

Timetable

7.4 The only fixture in the future timetable is the end of the consultation period on 30th November 2002. A White Paper has been promised by the Government in "Spring 2003", which is believed to be more likely in the summer. If the joint Kent/Medway legal challenge on Gatwick were to succeed this would delay the process, since logically the consultation would have to be opened up again to allow those affected by that option the opportunity to comment. The White Paper could rule a Cliffe option in or out – and whatever option(s) are selected significant further work on them will be required. It is reasonable to assume that if other options are chosen, the Cliffe proposal will continue to be promoted by those directly affected by that choice, who may regard it as a better proposition from their point of view.

7.5 It will be important for the Borough Council to continue to argue its case after the end of November until the White Paper is published.

7.6 The appraisals have assumed that any scheme would proceed fairly quickly. One set of assumptions would be that the scheme would obtain permission in 2006 and open in 2012. Due to the nature of the site it would be necessary to build the platform to the size necessary to accommodate the long term future, and all the basic supporting infrastructure at day 1 to allow the place to operate.

This is especially true of the airport is to 'seeded'. Various elements could no doubt be expanded and enhanced as time passed and demand grew.

7.7 One route to gaining planning permission would be a Hybrid Bill as with the Channel Tunnel Rail Link. This would have the advantage of bringing all the permissions together using a model that is known to work well. The alternative would be for a normal planning application, with compulsory purchase orders, the Highways Agency using its powers, and the SRA using a Transport and Public Works Act procedure.

7.8 What follows is purely speculative, but based on the CTRL precedent. To start on either approval process a much more detailed design would be needed and a full Environmental Appraisal (which includes a consultation stage). This would take at least a year so following the Hybrid Bill option; November 2004 would be the earliest feasible application. It would take at least two years to pass through Parliament. The disadvantage is that at this stage once the Bill is given a Second Reading it is approved in principle, and that cannot be challenged. Ignoring any legal challenges that might be mounted the earliest reasonable date for a planning permission would be the end of 2006.

7.9 Construction would then be on the basis of the available information something in the order of 5-6 years. Given the scale of the works required, including the provision of a Lower Thames Crossing, and a number of roads and railways, this seems a reasonable minimum. 2012 would be a very optimistic timetable and 2015 would appear to be a more robust figure.

7.10 The missing element would be a body to take the scheme forward. BAA Ltd, the most obvious private sector organisation owns Heathrow, Stansted and Gatwick, which would be a case for it not being involved on monopoly grounds. Another option might be a consortium of airlines that wished to move. However whatever the vehicle, the private sector is unlikely to want to take the scheme on until there is some certainty of permission. Again drawing a parallel with CTRL, where the private sector only came on board when the Bill went into the second house, this could be some way away. Logically some equivalent of Union Railways would needed to nurture the scheme in the initial stages.

7.11 The biggest concern that must be raised by the process is the potential for blight and uncertainty to continue for a considerable period. This could have a significant effect on decision makers, who will start postponing decisions that would otherwise be taken. As has been found with the CTRL, until the infrastructure is actually under construction there tends to be a disbelief that it will actually happen. CTRL uncertainty was concentrated on a narrow defined corridor, and the transport infrastructure will logically have the same impact. The noise blight is however potentially far more wide reaching. The scale of the capital cost involved must raise a concern as to whether even with permission the project would ever actually go ahead.

Section 8

Interim Appraisal

8.1 The proposal for an airport at Cliffe is of major significance, and dwarfs in scale and implications of even the current vision for Kent Thameside. It throws up a stark contrast between the impact on people and nature conservation versus the economic benefits, particularly those for Thames Gateway. As such it is a national issue (How much capacity should be provided?), a regional issue (Where to provide any new airport capacity?), and a local issue (Managing the impacts). These are the thrust of the Governments questions in Appendix II. As CTRL showed such projects are also very emotive for local residents for very obvious reasons.

8.2 This report has only been able to scratch the surface of many of the issues, which reflects in part the tight timetable on which the consultation is being conducted given the complexity of the issues. Until the consultants employed by KCC and Medway have reported it will not be possible to flesh out some of the arguments presented above (and no doubt some will prove weak and some new ones will be introduced). At this stage Members can only indicate the broad areas in which they can come to a view, on the basis of the substantial amount of information that is available but not yet fully understood.

8.3 The key test has already been outlined, along with the critical criteria set out in PPG9 on the habitat issues – is it a net benefit for Gravesham residents. The Borough Council has conducted an exercise of local consultation involving attending meetings, holding two exhibitions (one attended by over 700 people) and asking people to write in with their views. The clear message from this process has been that the people of Gravesham are against the concept of the airport, especially those on the east side of the Borough. A few people expressed the view that the economic benefits looked attractive.

Key findings

8.4 The proposed airport at Cliffe is intended to be hub airport operating with up to 113m passengers a year. This is getting on for nearly twice what Heathrow handles at present. It will result in the loss of some 26 km^2 of marshland, agriculture and built development, plus substantial areas affected by the access transport infrastructure. The impacts include substantial damage to nature conservation interests of international importance, noise and disturbance to many people, and the creation of a massive urban intrusion in a currently relatively quiet and remote location.

8.5 A Lower Thames Crossing would be added into the transport picture, perhaps in multi modal form, which would spread the transport load of serving the airport, but would of itself create pressures for further provision to provide a fuller M25/London road/rail bypass. The impacts of the current infrastructure proposals have not been fully appraised and need to be taken into account, but are significant in their own right.

8.6 The airport would create a substantial number of jobs directly from its presence and also from spin-offs in economic development terms. The analogy of what has happened in the Western Corridor is the quoted model. The impacts on the housing, employment and transport systems are significant, but claimed to be within the capacity of the wider area.

8.7 Current analysis suggests that these have been underestimated. There is clearly a connection between the scale of the job creation, the size of the labour market it draws from, and whether those workers can be diverted from jobs elsewhere. If they cannot there will be substantial pressures on the housing market, which could lead in turn to substantial urban development in locations not currently envisaged. This series of connections then undermines the operation of the transport system as proposed, leading to the need for more investment.

8.8 In economic and transport terms the problem with Cliffe is that it is a massive development (perhaps with the Shellhaven proposal to be added in as well) at the end of a peninsula. It is useful to compare it with the Western Corridor, and Heathrow in particular and ask what the differences and similarities are. Some of the more obvious are the fact that Heathrow has a 360^{o} catchment, with substantial population close by. Cliffe is in a cul-de-sac, with relatively poor connections despite a Lower Thames Crossing and other improvements. Its scale will overwhelm local labour markets and set up a whole series of negative loops.

National Issues

8.8 The first broad question from the Government is about the overall level of air traffic demand that should be met. It is not proposed to offer a specific view on these in this document but the following factors are relevant:-

- impact of aviation on global warming
- use of scare fossil fuel resources
- advances in technology (especially of jet engines from both a noise and emissions point of view)
- the degree to which aviation pays the real cost it imposes
- whether the factors that have fuelled growth will continue to apply over the next 30 years
- impact that new technology may have on the need to travel (particularly for business)
- the capacity of south east and other places to absorb passengers on that scale
- whether air travel demand is being treated differently for road and rail where there are clear limitations on capacity
- whether past patterns of behaviour be replicated in the future

8.9 The answers to such questions scope the overall framework within which the choice of locations can be made. As already noted the proportion of travel to the south east is expected to decline, so regional airports will benefit, whilst the overall totals rise dramatically. It is however clear that south east airports are running out of capacity and given the timescales involved decisions on new capacity need to be made in the next few years. Everyone wants the benefits of

the travel that an airport brings, but nobody wants the direct impacts. Any decision will be very unpopular with somebody.

8.10 The consultation is predicated on the assumption that a hub airport needs to be created (and in fact that it can be created by policy choice). The disadvantage of such a concept is that it implies very large airports, which then impose very significant impacts on their surrounding communities, including their support infrastructure. The advantage is that the impact in aggregate may be lessened by not spreading it around a number of airports, which is the logical alternative.

Regional choice

8.11 For any such choice it is important that the criteria of any decision are made clear. These should include:-

- a set of clear decision criteria
- a decision that is robust enough to handle major area of uncertainty
- a willingness to re-examine the issue if further work reveals further complications
- a clear and generous policy in dealing with impacts, whether they be on people (compensation etc) or nature (new habitat)
- a commitment to a quality product wherever it is

8.12 The work on Cliffe is at a fairly preliminary stage, and as with the CTRL if it were to got further, more detail will be gone into, designs refined. To date the Local Authorities have not been involved in the technical process and that needs to be an essential next step.

8.13 Specifically looking at Cliffe, attention is drawn to the basic question for Gravesham (will the benefits outweigh the cost?), which the test on ecology in PPG9 encapsulates well.

8.14 The results of the preliminary appraisal, with all the caveats that must go with that, suggest the following points:-

- environmental impact is highly significant for both people and nature conservation
- the claimed economic benefits run the risk of overwhelming the local economy
- there are potential implications that may mean large scale land release outside the planning framework currently envisaged
- additional transport capacity is provided, but again in danger of being overwhelmed
- regeneration may be delayed by a combination of timescales, blight and uncertainty
- there are alternative options at other locations in the south east which are both cheaper and more flexible
- with proper transport links there is no reason why Thames Gateway should not benefit from these

8.15 The work of the consultants, plus further analysis of the material already obtained, which will cast further light on the issues and allow a more definitive view to be taken. In the short term this has to be completed by 30th November

2002, but lobbying will need to continue until the Government reaches a conclusion. If Cliffe is still in the frame after that there will be serious implications on the future regeneration of the Borough, and the current plans will need to be fundamentally re-examined. Considerable time and resources will be needed to deal both with the airport itself and its knock-on consequences.

List of Figures

Figure

2.1 Historical growth of air traffic at major London airports
Source: Data in main consultation report
2.2 Projected unconstrained air travel growth
Source: data in main consultation report
2.3 South east airports
Source: SERAS Consultation document

4.1 2 runway airport at Cliff (Option *A2(2)*)
Source: SERAS Stage 2 Study Report
4.2 4 runway option with NE:SW runway (Option *A2(4)*)
Source: SERAS Stage 2 Study Report
4.3 Rail Surface Access
Source: SERAS Stage 2 Study Report

5.1 Ecology constraints
Source: SERAS Stage 2 Study Report
5.2 Landscape constraints
Source: SERAS Stage 2 Study Report
5.3 Water constraints
Source: SERAS Stage 2 Study Report
5.4 Noise contours – 4 runway 2030
Source: SERAS Stage 2 Study Report

Appendix I

List of Documentation

1. The Future Development of Air Transport in the United Kingdom: South East DfT July 2002
2. Questionnaire on The Future Development of Air Transport in the United Kingdom: South East DfT July 2002
3. SERAS (South East and East of England Regional Air Services Study) Stage Two Appraisal Findings Report Halcrow
4. SERAS Stage Two Methodology Report Halcrow
5. SERAS Stage Two Appraisal Summary Tables Halcrow
6. SERAS Stage Three Report Halcrow
7. Terms of Reference
8. Air Traffic Forecasts for United Kingdom 2000
9. SERAS Stage 2 Appraisal Findings Report – Supporting Documentation: Economic Appraisal Halcrow April 2002
10. SERAS Stage 2 Appraisal Findings Report – Supporting Documentation: Input Assumptions and Model Outputs Halcrow April 2002
11. SERAS Stage 2 Appraisal Findings Report – Supporting Documentation: Capital Costs Halcrow January 2002
12. SERAS Stage 2 Appraisal Findings Report – Supporting Documentation: Airport Employment Forecastingl Halcrow January 2002
13. SERAS Surface Access Impacts Halcrow July 2002
14. SERAS Land Use and Urbanisation Study Arup Economics & Planning April 2002
15. SERAS Social Impacts Appraisal Arup Economics & Planning October 2001
16. SERAS Regional Impacts Appraisal Arup Economics & Planning October 2001
17. SERAS Stage 2 Environmental Appraisal Groups 2 and 3 Volume 1 Main Report plus appendices Scott Wilson March 2002
18. SERAS Implications of a Thames Gateway Airport Arup Economics and Planning July 2001
19. Preliminary site search of options for new airport to serve the south east and east of England Scott Wilson May 2002

Appendix II

Department for Transport

Summary of questions for Consultees

SECTION 1 – HOW MUCH CAPACITY SHOULD BE PROVIDED?

Q1 Should new airport capacity be provided in the South East over the next 30 years and, if so, how much? What are the main reasons for your answer and how does it measure against the environmental, economic and social objectives of the Government's strategy for sustainable development?

Q2 Should the Government aim to maintain at least one large hub airport in the South East? Is a second hub plausible, and if so, should Government seek to promote one, and what would it need to do to achieve this?

Q3 Are there any benefits of aviation to passengers, the aviation industry or the wider economy that the Government should aim in particular to secure through its airports policy? Are there any drawbacks it should aim to avoid?

Q4 Should the Government seek to ensure that the potential employment benefits of aviation growth are spread to those people and localities which are most in need of such benefits? If so, what should it do to achieve this?

SECTION 2 – WHERE TO PROVIDE ANY NEW AIRPORT CAPACITY?

Q5 To which criteria should the Government attach the most and the least weight in reaching decisions about the location of any new capacity, and why?

Q6 What are the relative merits of these alternative combinations of possible airport development as set out in Chapter 14?

Q7 Giving reasons for your answer, which combinations do you prefer and which do you not favour?

Q8 If you think either Cliffe or Stansted should be developed as a hub airport, should the Government take action to ensure such development can be financed and subsequently fully utilised and if so what form should any action take?

Other South East airports (Chapter 12)

Q9 Should the Government encourage the development of smaller airports to meet as much of the demand as they can attract?

Q10 Should support be given for a specialized low cost/freight and maintenance facility at Alconbury?

Q11 If so, what conditions, in broad terms, should be attached to this support?

Q12 What views do you have about the six sites identified in the SERAS study as having the potential to cater for the demand for Business and other General Aviation?

Freight (Chapter 13)

Q13 How far should the Government make specific provision for the air freight sector in its decisions about future airport capacity in the South East? What might this involve in practice?

SECTION 3 MANAGING THE IMPACTS OF AIRPORT GROWTH

Q14 Are there any specific conditions that you feel should be attached to any or all of the airport options described in Chapters 7-11?

Q15 Are there any impacts reported in the chapters on individual airport options that you consider unacceptable?

Q16 How can local noise and air quality impacts in particular, best be reduced, controlled and mitigated?

Noise controls (Chapter 16)

Q17 What are your views on the following points on the control of noise impacts:

- Do you think that caps on the size of noise contours are the best way to determine a noise limit for an airport? If not, what other limits might you suggest?
- If you agree with the concept of contour caps, what size of noise contours might be desirable and feasible for each option?
- How do you think a contour cap might be regulated and enforced?

Noise mitigation and compensation (Chapter 16)

Q18 What views do you have on the following possible measures:

- Should any residential property which suffers an increase in noise of 3dBA or more as a result of any of these options, and which would be exposed to a noise level of 63dBA daytime or more, be eligible for acoustic insulation?
- Should acoustic insulation for households be extended to other noise-sensitive buildings not normally eligible, such as schools and hospitals, depending on detailed circumstances?
- Should those eligible for insulation be given the choice of either having the insulation work done or accepting a cash payment of an equivalent amount?
- Should assistance with relocation expenses be offered to households subject to very high levels of noise (such as 69dBA or more)?
- Should offers be made to purchase those properties which would be subject to both a very high level of noise and a large increase in noise?
- Should cash compensation be offered to those households suffering a significant increase in noise to a level greater than 57dBA but less than 63dBA – and

therefore not qualifying for insulation?

Night noise (Chapter 16)

Q19 Do you think that a five-yearly review cycle for the night restrictions regime for Heathrow, Gatwick and Stansted is appropriate or should some other review cycle be considered and, if so, what would you suggest? Are specific night noise restrictions needed at any other airport, and if so how should these be determined?

Access to airports by rail and road (Chapter 17)

Q20 Are there specific surface access improvements that should be made a condition of any airport option and any that should *not* be included?

Q21 How should any surface access schemes that are required for a particular airport development option be funded?

Responses should go to:-
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